

### ABSTRACT OF THE DISCLOSURE

A method of manufacturing a heat pipe construction includes first providing a tubular pipe with an open end. A thermally conductive material, such as a metallic material or a filled polymer composite material is overmolded over or cast around the tubular pipe. Additional heat dissipating elements, such as insert molded pins, may be provided in the overmolded or cast material to enhance thermal conductivity of the heat sink assembly. The tubular pipe is then filled with heat pipe media, such as water or ammonia, and then immediately sealed therein to effectively form an embedded heat pipe within a thermally conductive cast or overmolded structure. With the method of the present invention, an heat pipes can be overmolded with or cast into other heat dissipating material structure to improve overall performance of the heat pipe without damaging the heat pipe.

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